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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,183	09/09/2004	David Andrew Fish	GB020016	1802

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EXAMINER

SHENG, TOM V

ART UNIT PAPER NUMBER

2629

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/507,183	FISH, DAVID ANDREW	
	Examiner	Art Unit	
	Tom V. Sheng	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 4-11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/27/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 5-9 and 11 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claims. Also, claims 4-7, 9 and 11 cannot be dependent on "any preceding claims" because during the prosecution of the Application, some claims may be cancelled or renumbered, confusing the dependency of the claims. Further, claim 10 depends on non-examinable claim 9. See MPEP § 608.01(n). Accordingly, the claims 4-11 would not be further treated on the merits.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Nishitoba (US 6,734,836 B2).

As for claim 1, Nishitoba teaches an active matrix electroluminescent (EL) display device comprising

a matrix array of electroluminescent display elements (organic EL device 11; fig. 3; column 1 lines 33-39; column 10 line 5) each of which has an associated switching circuit (current drive circuit of fig. 3) for controlling the current through the display element (supplies current corresponding to signal voltage stored in storage capacitor 12; column 10 lines 62-65) in accordance with an applied drive signal (based on signal current at signal line 3; column 10 lines 34-43),

wherein the switching circuit (current driving circuit; fig. 3) comprises:

a drive transistor (driving transistor 6) and a cascode transistor (switch transistor 15) in series (as shown being cascode in series) with an associated EL display element (EL device 11; column 9 line 56 through column 10 line 4),

the drive transistor being for driving a current through the associated EL display element (column 10 lines 62-65);

a storage capacitor (storage capacitor 12) connected between a power supply line and the gate of the drive transistor (connected between gate of driving transistor 6 and terminal 2, which is the power ground; column 10 lines 5-9), for storing a gate voltage for the drive transistor (signal current is supplied to the storage capacitor 12 when selection line 4 turns high; column 10 lines 34-43);

a first switch (also the switch transistor 15) for allowing or preventing the drive current to flow through the EL display element (current would go to EL device 11 only when transistor 15 is active; column 10 lines 47-65),

wherein the switching circuit is operable in two modes,

a first mode (when selection line 4 is high) in which an input current is sampled

by the drive transistor (signal current from signal line 3 is stored as a signal voltage at storage capacitor 12) and the first switch is open (transistor 15 is turned off; column 10 lines 34-46), and

a second mode (when selection line 4 is low) in which the drive transistor drives a current corresponding to the input current through the EL display element (current is supplied to EL device 11 based on above signal voltage, which in turn depends on the signal current supplied earlier above), and the first switch is closed (transistor 15 is turned on; column 10 lines 47-65).

As for claim 2, the switch 13 corresponds to claimed second switch between the gate and drain of the drive transistor.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishitoba.

As for claim 3, Nishitoba teaches a NMOS switch 13 connected between the gate and drain of driving transistor 6. Nishitoba does not teach, however, that wherein the second switch comprises an n-channel transistor and a p-channel transistor in parallel (known as CMOS transistor). Official Notice is taken of both the concept and advantages of CMOS switch over NMOS switches that are well known and expected in

Art Unit: 2629

the art. It would have been obvious to use a CMOS switch when low current flow or power consumption is desirable.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Okuda (US 6,650,060 B2) teaches a light emitting display wherein the display has current programming operation and a current driving operation.

Hunter (US 6,356,029 B1) teaches an EL display having an address period and a drive period. The EL display further has a feedback circuit at each pixel for countering aging of the EL display elements.

Yumoto (US 6,859,193 B1) teaches a light emitting display. For each pixel, there are a receiving transistor for receiving a signal current, a converting transistor for converting the current to a voltage to be held by a capacitor, and a driving transistor for driving a current through a light-emitting element based on the voltage level at the capacitor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V. Sheng whose telephone number is (571) 272-7684. The examiner can normally be reached on 9:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2629

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Sheng
March 29, 2006

AMR A. AWAD
PRIMARY EXAMINER
